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IN THE

UNITED STATES PATENT AND TRADEMARK OFFICE

APPELLANTS: Richard D. Cappels, Sr. et al.

SERIAL NO.: 09/160,503

FILING DATE: September 24, 1998

TITLE: Apparatus and Method for Handling Special Windows in a Display

EXAMINER: Joseph, T.

GROUP ART UNIT: 2773

ATTY.DKT.NO.: P2267/PA1021

CERTIFICATE OF MAILING

I hereby certify that this paper is being deposited in the United States Postal Service in an envelope with sufficient postage for first class mail addressed to:

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Washington, D.C. 20231

Date: February 27, 2001

David Lewis

David Lewis

COMMISSIONER FOR PATENTS
WASHINGTON, D.C. 20231

Appeal Brief

Sir;

This is an Appeal from the rejection of claims 5-12, 25-32 and 44-47. For the convenience of the Board of Appeals and Interferences a table of contents for the remainder of this Appeal Brief follows on the next page.

Table of Contents

Real Party in Interest

The real party in interest in the above referenced patent application is Apple Computer, Inc. of Cupertino, California.

Related Appeals and Interferences

U.S. Patent Application Serial No. 08/900,964 is also on appeal, and the rejections being appealed also use McLaughlin et al. as a primary reference. To the present knowledge of the Appellant's representative there are currently no other related appeal or interference proceedings that will directly affect, or be directly affected by or have a bearing on the Board's decision in the present Appeal.

Related Applications

The present application is related to co-pending U.S. Patent Application Serial No. 08/900,964, entitled "System And Method For Generating High-Luminance Windows On A Computer Display Device", filed on July 25, 1997, currently on appeal, and its continuation U.S. Patent Application Serial Number 09/709,140, filed on November 1, 2000, with the same title.

Status of the Claims

Claims 44-47 stand rejected under 35 USC §112, first paragraph as containing subject matter that is not described in the specification in such a way as to convey that the inventors had possession of the claimed invention and how to make and/or use the invention.

Claims 1, 3, 4, 21, 23, 24, 44, and 45 stand rejected under 35 USC §102(b) as being anticipated by McLaughlin et al. However, claims 1, 3, 4, 21, 23, and 24 are not on appeal.

Claims 2 and 22 (are not on appeal but) stand rejected under 35 USC §103(a) as unpatentable over McLaughlin et al. in view of Fisher.

Claims 5-10, 12, 25-30, 32, 41-43, 46 and 47 stand rejected under 35 USC §103(a) as unpatentable over McLaughlin et al. in view of Shafer. However, claims 42 and 43 are not on appeal.

Claims 11 and 31 stand rejected under 35 USC §103(a) as unpatentable over McLaughlin et al. in view of Shafer further in view of Pierm.

Claims 13-20 and 33-40 are pending but stand withdrawn from consideration due to a restriction requirement.

Status of Amendments Filed After Final Rejection

An amendment was filed on October 26, 2000 responsive to the Office Action mailed July 27, 2000 (paper #9). In an Advisory Action mailed November 9, 2000 the Examiner declined to enter the amendment. Another amendment of unknown status is being filed herewith.

Other Activity that May Affect This Appeal

A petition petitioning the finality of the rejection was filed on November 27, 2000 and was denied in a decision mailed January 25, 2001 (paper # 15).

A petition is being filed herewith petitioning the finality of the rejection and appealing the Decision in paper #15. Should the present petition be denied the Appellants plan on canceling claims 1-4, 21-24, 42 and 43. Should the present petition be granted the Appellants expect the Amendment After Final of October 26, 2000 to be entered, affecting claims 1-4, 21-24, 42 and 43. However, these claims have not yet been argued because it is expected that if the Amendment After Final of October 26, 2000 is entered, prosecution will be reopened.

Concise Statement of Issues

(1) Whether claims 44-47 comply with the adequate written description clause of 35 USC §112, first paragraph.

(2) Whether claims 44-47 comply with the enablement clause of 35 USC §112, first paragraph.

(3) Whether claims 44 and 45 are anticipated by McLaughlin et al.

(4) Whether claims 5-10, 12, 25-30, 32, 41, 46 and 47 are obvious over McLaughlin et al. in view of Shafer.

(6) Whether claims 11 and 31 are obvious over McLaughlin et al. in view of Shafer further in view of Priem.

A More Detailed Statement of Issues

Subsumed within these six issues are at least the following sub-issues:

Whether the description of how the key signals are located and color coded to give an achromatic gray so as to be indistinctive and so as not to be a distraction on page 4, line13 through page 5, line 22 and page 16, line 13 through page 19 line 4 are

(1) sufficient to have enabled one of ordinary skill in the art to make and use an apparatus or method in which "special window information is embedded in the video signal so as to be visually indistinctive" without undue experimentation as in claims 44-47; and

(2) a sufficient written description to expressly or inherently disclose an apparatus or method in which "special window information is embedded in the video signal so as to be visually indistinctive" as in claims 44-47.

Whether the phrase "the special window information is embedded in the video signal so as to be visually indistinctive" is unclear when read in light of the specification.

Whether the clarity of claim language is an issue under 35 USC §112, first paragraph.

Whether McLaughlin et al.'s print preproofing, color control and calibration system can be considered a system for processing special windows.

Whether McLaughlin et al. has multiple "special windows."

Whether the claimed "window manager" can be interpreted as a window that manages applications or whether the rules of English require a window manager to be a manager that manages windows.

Whether McLaughlin et al. inherently has a "window decoder."

Whether McLaughlin et al. inherently has a video signal in which information about special windows or "special window information" is "embedded" and later "extracted."

Whether McLaughlin et al. displays the special window information on a display in such a manner as to be "visually indistinct."

Whether McLaughlin et al. or Shafer et al. teach that the "key signals include ... information to encode a target area position" as claimed.

Whether the active nature of controlling color, print proofing, and calibration of McLaughlin et al. teach away from using Shafer's sleep timer or the bar graph of Shafer's prior art section for watching TV while falling asleep as a clock signal for special window information.

Whether the bar graph or sleep time of Shafer constitute a clock for special window information.

Whether Shafer teaches away from using the bar graph disclosed in Shafer's prior art section.

Whether the Examiner has provided a motivation for combining Shafer and McLaughlin et al. that is recognized in the prior art.

Whether the active nature of use of the device of McLaughlin et al. and the passive nature of use of the device of Shafer indicate that Shafer belongs to an art area that is non-analogous with respect to McLaughlin et al. for the purposes the Examiner would like to use them in his proposed combination of references.

Regarding claims 6, and 26, whether Shafer or McLaughlin et al disclose key signals encoding a target area.

Regarding claims 7 and 27, whether Shafer discloses pixel pairs.

Regarding claims 8, 28 and 41, whether Shafer or McLaughlin et al. disclose a start sequence, a horizontal offset sequence, a vertical offset sequence, a stop sequence, a CRC check sum, and a code sequence defining the location of the key signal, ensuring its validity and ensuring that it does not get mixed up with other display information.

Regarding claims 9 and 29, whether Shafer or McLaughlin et al. disclose both nondifferential and differential signals.

Regarding claims 10 and 30, whether the numbers in boxes of FIGs. 3-6 of McLaughlin et al. constitute the claimed number sequences.

Regarding claims 12 and 32, whether FIG. 6 of McLaughlin et al. shows the claimed selection sequence.

Whether the Examiner used hindsight when relying on a concept similar to that disclosed by the Appellants (page 4, lines 9-12) in their Specification as a motivation for combining Priem with McLaughlin et al. and Shafer.

Whether Priem (column 3, lines 44-49) and his use of the Z-buffer for keeping track of windows teaches away from using a shape sequence for identifying a window and therefore also for identifying the shape of a window.

Whether the sequence of *objects* within a window of column 3 or any other part of Priem teaches the use of a "shape sequence" which is used to indicate a *window* shape *only if* the shape is not rectangular, as required by claims 11 and 31.

The Appellants have attempted to highlight the issues in a manner that is convenient for the Board of Appeals and Interferences. However, the Appellants respectfully request the Board of Appeals and Interferences to consider all of the Appellants' arguments, including any sub-issues that may not have been explicitly delineated above.

Claim Groupings

Claims 28 and 41 stand and fall together and claims 46 and 47 stand and fall together. The rest of the claims deserve separate consideration.

Below the Appellants are providing a chart of the claims pending, categorizing the claims according to the references over which they were rejected and claim type for the convenience of the Board of Appeals and Interferences.

	System	Method		Means plus Function	Computer Readable Memory
McLaughlin et al.	1	21	McLaughlin et al. in view of Shafer	42	43
McLaughlin et al. in view of Fisher	2	22			
McLaughlin et al	3	23			
	4	24			
McLaughlin et al. in view of Shafer	5	25			
	6	26			
	7	27			
	8	28	41		
	9	29			
	10	30			
McLaughlin et al. in view of Shafer and Priem	11	31			
McLaughlin et al. in view of Shafer	12	32			
Restriction	13	33			
	14	34			
	15	35			
	16	36			
	17	37			
	18	38			
	19	39			
	20	40			

McLaughlin et al.	44	45	McLaughlin et al. in view of Shafer	46	47

In the above chart, the regions with cross hatching represent claims that are not currently on Appeal but are still pending. Claims sharing the same row have similar (but typically not identical) limitations, and claims sharing the same column are of the same type (i.e., system, method, computer readable medium or means plus function).

The claims can be divided into

Group I, claims 44 and 45

Group IA claim 44 and

Group IB claim 45

Group II, claims 5-10, 12, 25-30, 32, 41, 46 and 47 which contains

Group IIA, claims 5-10 and 12, which contains

Group IIA(1) claim 5,

Group IIA(2) claim 6,

Group IIA(3) claim 7,

Group IIA(4) claim 8,

Group IIA(5) claim 9,

Group IIA(6) claim 10, and

Group IIA(7) claim 12,

Group IIB, claims 25-30, 32, 41, 46, and 47, which contains

Group IIB(1) claim 25,

Group IIB(2) claim 26,

Group IIB(3) claim 27,

Group IIB(4) claim 28 and 41

Group IIB(5) claim 29,

Group IIB(6) claim 30,

Group IIB(7) claim 32, and

Group IIB(8) claims 46 and 47

Group III, claims 11 and 31, which contains

Group IIIA, claim 11; and

Group IIIB claim 31.

Groups I, II, and III each deserve consideration separate from one another because of the different combinations of references relied upon in the Examiner's rejection. Groups IA, IIA, and IIIA deserve separate consideration from Groups IB, IIB and IIIB because Groups IA, IIA and IIIA contain the added limitation of having a window manager and a window decoder, while Groups IB, IIB and IIIB contain either a step of embedding and a step of decoding or else a means for embedding and a means for decoding. Groups IIA(2) and IIB(2), claims 6 and 26 deserve separate consideration because they claim key signals that include information to encode target area positions. Groups IIA(3) and IIB(3), claims 7 and 27 deserve separate consideration because they claim pixel pairs. Groups IIA(4) and IIB(4), claims 8, 28 and 41 deserve separate consideration because they claim a CRC check sum, a start sequence, a stop sequence, a code sequence, a horizontal offset sequence and a vertical offset sequence defining the location of the key signals and ensuring that they are identified as the key signals. Groups IIA(5) and IIB(5), claims 9 and 29 deserve separate consideration because they claim both differential and nondifferential signals. Groups IIA(6) and IIB(6),

claims 10 and 30 deserve separate consideration because they claim a number sequence that indicates the number of special windows. Groups IIA(7) and IIB(7), claims 12 and 32 deserve separate consideration because they claim using one color to clock the special window information and a second color to carry the special window information. Groups IIB(8) claims 46 and 47 deserve separate consideration from the rest of Group II because they claim that the special window information is displayed in a manner in which it is visually indistinct.

A summary of the claimed invention

Among the purposes of the invention is to address the particular problems associated with displaying special windows, which need to be processed differently than the rest of the display. For example, it is desirable to increase the luminance for windows displaying video information (page 2, line 12 through page 4 line 2). Key signals are used to enable circuitry to identify the windows for special processing. The key signals are embedded in a video signal and contain the special window information. The key signals are sent to the screen and displayed along with the rest of the video signal. However, whereas the picture resulting from rest of the video signal is intended to be viewed directly by the user, the key signals are intended to be extracted from the video signal and read by a window decoder. The key signals are sent to the video display and displayed on the screen only as a by-product of the display method of this invention to avoid the need of a secondary communications channel (page 16, lines 13 and 14).

FIG. 1 (discussed in the paragraph bridging pages 10 and 11) shows an overall view of the computer system within which the invention is incorporated. This system includes a display 112 on which the special window is displayed, a CPU 110 that runs the application 310 (FIG. 3) and generates the special window, a video generator 126 that generates the video signal, and VRAM 120 that stores information prior to being displayed on display 112. Although not specifically of interest to the claimed invention FIG. 1 also shows input device 114, RAM 122, ROM 124, and the data storage system 116.

FIG. 2 illustrates an example of a special window 200 on a display screen 112 (page 11, lines 11-13). FIG. 2 is discussed in detail in the paragraph bridging pages 11 and 12. The window information might be extracted from the rest of the video signal while the video

signal is stored in video RAM 120 (page 4, lines 22 and 23). Were nothing done to mask the key signal, it might result in some portion of the screen displaying an unsightly mess.

As illustrated in FIG. 3, preferably the special window 114 is created by a window manager 314 of an operating system 312 (page 10, lines 12-14, claim 2). The operating system 312, the window manager 314 and the application program 310 generating the special window 114 are stored in RAM 122. The window manager 314 embeds the key information into the video signal (page 10, lines 14-18, claim 22).

Referring to FIG. 4, the application program 310 communicates with the operating system 312 causing the video generator 126 to send signals to the video amplifier 414 and the window decoder 416. The window decoder 416 sends signals to the video amplifier 126 causing it to treat the pixels within the special window 114 differently from the rest of the pixels. Video amplifier 416 produces a signal 422 that controls the output to the cathode ray tube 412.

Referring to FIG. 5 (page 14, line 14 through page 15, line 2), display 112 has window 200, which includes frames 510, a content area 512, a vertical scroll bar 518, and a horizontal scroll bar 520. The key signals 514 and 516 are depicted as heavy black lines. Although key signals 514 and 516 may be viewable to the user they are not supposed to distract the user and are supposed to be unobtrusive (claims 44-47, page 15, lines 14-17). Thus they may be placed within the borders or frame of the window as in FIG. 5 in a manner such that they do not protrude (page 15, lines 20-22) or hidden within a logo, trademark, or watermark (the sentence bridging pages 19 and 20). The operating system 312 having window manager 314 encodes and stores the key signals 514 and 516 in video RAM 120

(page 4, lines 20-22). Video generator 126 scans video RAM 120 and passes its entire contents including the key signals to the display 112 (page 13, lines 7-13).

FIG. 6 shows one embodiment of the key signals 514 and 516. The first of next two paragraphs discusses some background information that will aid in understanding FIG. 6. The second of the next two paragraphs discusses the details of FIG. 6, which are related to claims 5, 7, 25, 27, and 44-47.

It is desirable to encode the special window information as a series of 1s and 0s. However, it is also desirable that whether a 1 or a 0 is encoded at a particular location in the key signal it typically should look the same to the viewer. One way this can be done is to make the key signals appear as an achromatic gray. Each pixel may have a red, blue and green color component, for example. In the following example each pixel will have either one or two of the components lit and the remaining component or components not lit. Since each pixel is below the resolution or acuity of the human eye, using an additive color system, gray can be obtained by placing a primary color next to an *opposite secondary*, where an opposite secondary color is defined as one not containing the primary color to which it is opposite. So for example, yellow can be made from green and blue and is therefore opposite red. Similarly, cyan is opposite green and magenta is opposite blue. Consequently, whether a red pixel is placed next to a yellow pixel, a green pixel is placed next to a cyan pixel, or a blue pixel is placed next to a magenta pixel, as long as all the pixels have the same luminance the viewer just sees the same shade of gray no matter which pair is used (page 5, lines 4-16, page 18, lines 1-16). Thus a 0 could be represented as a cyan followed by a red pixel pair and a 1 could be represented as a yellow followed by a blue pixel pair, allowing the 0s and 1s to be displayed on the display screen with both camouflaged as part of a gray segment

containing the key signal 514 or 516 (page 18, lines 16-19). Whether a 1 or a 0 is displayed between the two pixels representing the bit, there is an equal amount of red, green and blue, specifically one pixel's worth of each. As long as equal luminances of red, blue and green are used the bit will appear an achromatic gray. As long as the same luminance is used for primary colors that make up the 1 as for the 0, they both appear to be the same shade of gray.

The display data 610 represents the data contained in key signals 514 and 516, which contain the window information, is stored in video RAM 120, and passed via video generator 126 to the window decoder 416 in addition to being sent via video amplifier 414 directly to the display 112. The green waveform 614 is used as a clock signal and serves as a reference for the red signal 616, which contains the data (page 17, lines 1-14). One clock cycle or period of the green waveform 614 is two pixels, which form one bit of information (page 17, lines 5 and 6). The first pixel has its green component lit and the second pixel does not have its green component lit. Since all of the window information is contained in the red and green signals, the blue signal can be chosen to obscure the data with the image on the screen. In the embodiment of FIG. 6 the blue signal 618 is the logical inverse of the red signal 616 (page 17, lines 21 and 22). The state of the red signal 616 during the first half of the clock cycle determines whether a 1 or a 0 is being stored. When the red component is lit during the first half of the clock cycle the value of the bit is a 1, and when the red component is not lit during the first half of the clock cycle the value is 0. The resultant colors of the pixels are depicted by the letters within the pixels 612, where Y represents yellow, B represents blue, R represents red, and C represents cyan. Using the coding scheme of FIG. 6 a 1 is represented by a yellow pixel followed by a blue pixel and a 0 is represented by cyan pixel followed by a red pixel, except at the pixel just prior to a transition. The Appellants have recognized that

despite the transitions the overall appearance on the screen of the key signals 514 and 516 is an achromatic gray.

FIG. 7 shows the information encoded within the key signals 514 and 516 (see claims 8, 28, and 41, page 6, line 8 through page 7, line 3 and page 19, line 6 through page 23, line 2). The key signals 514 or 516 may follow a format 710 which may include a start sequence 712, a code 714, a horizontal offset 716, a vertical offset 718, a CRC check sum 720, and a stop sequence 722. Code sequence 714 serves the purpose of reducing the likelihood of other display data being confused with the key signals. Horizontal offset 716 represents the horizontal distance of the pixels 612 from the edge of the content area 512 to be differently processed. Likewise, vertical offset 716 represents the vertical distance of the pixels 612 from the edge of the content area 512 to be differently processed. The CRC check sum 720 is used to reduce the likelihood of error in the horizontal and vertical offsets 716 and 718.

Additionally (claims 9 and 29, page 6, lines 19-22), three bits of unchanging color, thereby forming a non-differential signal, precede the start sequence 712 and bits of unchanging color follow the top sequence 722, which the window decoder checks for as an additional way of avoiding accidentally processing of a special window. In contrast, the rest of the key signal tends to change colors from pixel to pixel and is thus differential in nature.

The key signal may also include a number sequence for indicating the number of windows (claims 10 and 30, page 15, lines 17-19), a shape sequence for indicating the shape of the window if not rectangular (claims 11 and 31, page 15, lines 19 and 20), and a selection sequence for selecting which types of special processing to apply to the window (claims 12 and 32, page 15, lines 10-12).

Arguments

Whether claims 44-47 comply with 35 USC §112, first paragraph

The Examiner rejected claims 44-47 under both the enablement requirement and the sufficient written description requirement of 35 USC §112, first paragraph.

It is unclear why the Examiner believes that claims 44-47 do not satisfy 35 USC §112, first paragraph.

The claimed subject matter is not new matter because it is described using phrases such as "not visually discernible" (page 5, lines 4-7), "without causing visual distraction" (page 5, lines 12-14), "visually unobtrusive" (page 10, lines 14-18), and "should not distract the user" (page 15, lines 12-15), for example. The Appellants chose the word "indistinctive" to describe the claimed subject matter based on page 16, lines 14-18, which state

> since the entire contents of video RAM 120 will be depicted on display 112, the information in first key signal 514 and in second key signal 516 should be encoded in a manner that will *not be visually distinctive* to the viewer when both key signals are depicted on display 112 (emphasis added).

Presumably, the phrase "not ... visually distinctive," above, gives proper antecedent basis for the claim terminology of "visually indistinctive," and satisfies 35 USC §112, first paragraph in that it is not new matter.

In rejecting the claims 44-47 under the sufficient written description requirement, the Examiner alleged (page 3, the last sentence of the first full paragraph), without further explanation, that

> Claims are unclear [sic] that the one ordinarily skilled in the [sic] cannot recognize the encompassed claim limitations.

The Appellants respectfully submit that the clarity of the statement may be an issue under the second paragraph of 35 USC §112, but is not relevant to the first paragraph of 35 USC §112.

Additionally, the Appellants respectfully submit that they fail to see any problem with the clarity of claims 44-47 and the scope they encompass, which are just written in plain English. The Examiner never explained why he believes that the claim is unclear. The requirement that the special window information be embedded in the video signal so as to be visually indistinct is clearly just a requirement that the embedded information (e.g., the series of 1s and 0s) embedded in the video signal should not be noticeable or distinctive to the viewer when displayed on the screen.

In the response to the final rejection filed October 26, 2000, the Appellants also mention a second limitation implied by claims 44-47, which recite "the special window information is embedded in the video signal so as to be...." This implies that the special window information is embedded in the video signal is a second requirement of claims 44-47. Although this statement is essentially true, the phrase "the special window information is embedded in the video signal so as to be" in claims 44-47 is just a reference to that requirement already recited in the independent claims 1, 21, 42, and 43 from which claims 44-47 depend, rather than newly introducing this requirement.

In rejecting claims 44-47 under the sufficient written description requirement the Examiner alleged (paper #9, page 3, the middle sentence of the first full paragraph) that

> The description is not sufficient to understand how an object that is not changed when the object is 'visually indistinctive'.

Similarly, when rejecting claims 44-47 under the enablement requirement the Examiner stated (page 4, the last sentence of the first full paragraph),

> Undue experimentation would be needed to make an object that is not changed when the object is 'visually indistinctive'.

The Appellants respectfully submit that claims 44-47 never recite something being "not changed," and consequently, the adequacy of the written disclosure regarding, and whether or not the specification enabled one of ordinary skill to make and use, something not being changed is not directly relevant to the claims 44-47. Nonetheless, the specification did give an adequate written description regarding, and enabled one can of ordinary skill to make and use key signals, which given the limited acuity of the human eye appear to be a relatively unchanging achromatic gray. As explained above, by representing a 0 with cyan followed by red and a 1 by yellow followed by blue, for example, both the 1s and 0s appear to the observer as an achromatic gray. Any primary color adjacent its opposite secondary color will result in the same achromatic gray, as long as the luminance of the primary of the first pixel and the two primary colors making up the opposite secondary color of the second pixel are the same, because the result is always the same mixture of the same three primary colors. Any choice of a primary color adjacent to its opposite secondary color can be used for a 1, and any of the remaining choices of a primary adjacent to its opposite secondary color can be used for a 0. The result is an achromatic gray that does not change no matter the series of 1s and 0s being represented. Whether the 1s and 0s of the transitions are identical to the rest of the 1s and 0s depends upon the coding scheme chosen. Were a coding scheme chosen in which the 1s and 0s of the transitions are identical to the rest of the 1s and 0s clearly the entire key signal will be an unchanging achromatic gray.

Although the coding scheme of FIG. 6 is not claimed and therefore does not need to satisfy 35 USC §112, first paragraph, it does. The Appellants have observed that using transitions that are either a flat high or a flat low as in the example of FIG. 6 still results in an achromatic gray, which can be explained as follows. An isolated transition is not noticeable

because of the limited acuity of the eye. Additionally, in the embodiments of the invention that use a binary coding system, consecutive transitions are inherently opposite to one another in the sense that if the first transition is from 1 to 0 the next transition must be from 0 to 1 because each valid bit can only be a 1 or a 0. Consequently, in any given valid key signal there tends to be either just as many or almost as many transitions from 1 to 0 as there are for 0 to 1, because inherently there should never be more than one more of one type of transition than the other. Four pixels in two consecutive transitions have a total of two pixels with green illuminated, two pixels with red illuminated and two pixels with blue illuminated, thereby having equal amounts of all three primary colors between the four pixels. Clearly, two adjacent transitions of opposite type will appear gray because between the four pixels there are equal amounts of each primary color. However, even when consecutive transitions are not adjacent, if a first transition has only red and no blue giving a tint that is imperceptibly high in red and low in blue, it should be followed by one having only blue and no red giving a tint imperceptibly high in blue and low in red, for example. In this way, two consecutive transitions tend to compensate for the other in the overall tint of the key signal, which still looks gray given the limited acuity of the human eye that cannot resolve individual transitions. Further, there is never a build up of blue or red resulting from many transitions, because consecutive transitions tend to be of the opposite type.

Below the Appellants are repeating the arguments relating to 35 USC 112, first paragraph, of the response of October 26, 2000 pages 10-15, for the convenience of the Board of Appeals and Interferences.

In rejecting claims 44-47 under the sufficient written description requirement the Examiner alleged (page 3, the first sentence of the first full paragraph) that the

> Specification does not explicitly describe nor is sufficiently clear for one of ordinary skill in art to recognize: 1) 'visually indistinctive to a viewer' in claims 44-47.

Similarly, when rejecting claims 44-47 under the enablement requirement the Examiner stated (page 4, the first sentence of the first full paragraph),

> Undue experimentation and ingenuity would be required beyond one ordinarily skilled in the art to practice 1) 'visually indistinctive to a viewer' in claim 44-47.

The Examiner's statements are unclear as to what is meant by "to recognize: 1) 'visually indistinctive to a viewer'...." or "to practice 1) 'visually indistinctive to a viewer'...." However, the subject matter claimed is clearly and explicitly described in the Summary of the Invention on page 4, line 13 through page 5, line 7; on page 10 lines 11-18; and in conjunction with the FIG. 5 first key signal 514 and second key signal 516 and the timing diagram of FIG. 6 on page 14, line 21 through page 19, line 4, for example.

The specification explains (page 4, lines 13-22),

> In accordance with the present invention, special windows include key signals that enable display circuitry to identify windows to be specially processed. The key signals also include information needed by display circuitry to locate the boundaries of the portion of the content area to be specially processed. The key signals are preferably static patterns in a special window, so that no separate signals or second communication channel beyond the existing video interface are required to trigger special processing. The operating system places digital representations of all display information, including special windows, into a video RAM in the preferred embodiment.

In other words the Appellants' invention takes the special video information in a format intended to be easily read by a window decoder and places it into key signals that are stored in video RAM. The specification continues (the sentence bridging pages 4 and 5),

> A window decoder in the display detects the key signals, extracts the embedded special window information from the key signals and controls the display circuitry performing the special processing desired.

In other words, the window decoder detects the key signals and extracts the video information.

The specification also states (page 16, lines 13-18),

> A second communications channel, such as a separate serial interface, is therefore not required. However, since the entire contents of video RAM 120 will be depicted on display 112, the information in first key signal 514 and in second key signal 516 should be encoded in a manner that will not be visually distinctive to the viewer when both key signals are depicted on display 112.

By storing the special video information in the video RAM a separate serial interface is not required for the special window information. Since the key signals are stored in video RAM they are sent to the screen and displayed. Ordinarily this would create a visually unappealing mess on the segment of the screen where the key signal is displayed. (The key signal contains unprocessed video information that needs to be processed to create the video information for the high luminance window, for example.) In one embodiment to remedy the potential unsightliness of the key signal it is placed in the frame of the window as illustrated and described in conjunction with key signals 514 and 516 in FIG. 5.

Additionally, color coding of the signal to create a uniform gray throughout the key signal bars 514 and 516 is explained in the Summary of the Invention (page 5, lines 4-18).

> Key signals are patterns of colored pixel (picture element) pairs. A color coding scheme enables storage of key signal information in a manner that is easily detectable by the window decoder, yet is not visually discernible, given the limited acuity of the human eye. In additive color display systems, primary colors (red, green, blue) can be mixed to produce secondary colors (yellow, cyan, magenta). If a pixel of a primary color is placed next to a pixel of an opposite secondary color (that is, one not including the primary color) of equal luminance, the resulting pixel pair resembles a single pixel that is an achromatic gray in color. ... One primary color channel serves as the data signal, and another is used as a complement to produce the achromatic gray color of pixel pairs.
>
> The key signal color coding scheme preferably uses the remaining primary color channel in the existing video interface as a video clock signal.

This concept is further explained in the Detailed Description of the Preferred Embodiment in page 17, line 11 through page 18, line 19,

> In the FIG. 6 embodiment, window manager 314 uses green waveform 614 as a clock to clearly define the duration of individual pixels 612, which is analogous to individual pixel 612 width in a rastered display 112. Use of pixel 612 color data, represented in the preferred embodiment by green waveform 614, as a clock renders use of a second clock communicated via a second communication channel (such as a serial interface card) unnecessary. In the preferred embodiment, a rising edge of green waveform 614 clocks in preceding data. Red waveform 616 carries display data 610. A transition from a high to a low display data 610 value or vice-versa causes red waveform 616 to alter its phase with respect to green waveform 614 as shown. The blue waveform 618 is the logical inverse of red waveform 616.
>
> The mixture of the green, red, and blue content as given in green waveform 614, red waveform 616, and blue waveform 618, respectively, determines the overall perceived color of each resulting pixel 612. In all figures, these letters denote the following colors: R=red, G=green, B=blue, C=cyan, M=magneta, Y=yellow. In additive color systems, cyan results from an equal mixture of green and blue, magenta results from an equal mixture of red and blue, and yellow results from an equal mixture of red and green. Mixing a secondary color with an opposing primary color (one not contained in the secondary color) of equal luminance generally results in a mixture that appears gray to the viewer. When a pixel 612 of a primary color (red, green, or blue) is located next to a pixel 612 of a corresponding secondary color (cyan, magenta, or yellow, respectively) of proper brightness, the resulting pair of pixels 612 approximates a single achromatic gray pixel 612 in appearance, given the limited spatial acuity of the human eye. Display 112 thus depicts display data 610 without notable visual aberration when display data 610 is encoded into pixels 612 colored in this manner. In the preferred embodiment, a binary logic value of "1" is denoted by a yellow pixel 612 neighboring a blue pixel 612, and a binary logic value of "0" is denoted by a cyan pixel 612 neighboring a red pixel 612.

As an explanation of these passages, the coding system used to obscure the signal encoded within signal bars 514 and 516 is as follows: the timing signal of the special window information is sent to the screen within signal bars 514 and 516 as the green signal. The special window information or display data is sent to the screen within bars 514 and 516 as the red signal. The blue signal sent to the screen within bars 514 and 516 is the logical complement of the red signal. Since the red and blue signals are logical complements of one another and the green is the timing signal, the green either mixes with the red or the blue

depending on whether a 1 or a 0 is being represented. The red and green form yellow and the blue and green form cyan. Thus a 0 could be represented by cyan next to red, while a 1 could be yellow next to blue. Since the pixels are so small, "given the limited spatial acuity of the human eye" (page 18, line 14) both the cyan red pair and the yellow blue pair look gray to the observer. Thus, the only two types of data that are embedded, 1s and 0s, both appear gray to the viewer and are thus "indistinctive" to the viewer.

The specification explains (page 5, lines 12-14) that

> This enables the key signal to be plainly displayed in a gray window frame without causing visual distraction.

In other words, by placing the bars within 514 and 516 within the frame of 200, which is also gray, the bars 514 and 516 are unobtrusive and not very noticeable to the viewer. Thus each uniform gray bar has embedded in it the special window information in a manner that cannot be discerned by the viewer, and is placed so as to be unobtrusive and unnoticeable by the viewer or is "visually indistinctive."

The Appellants respectfully submit that it is unclear what the Examiner finds unclear with the written description in the specification, and it is likewise unclear why the Examiner believes that undue experimentation would be required for one to make the invention. As the burden of proof is upon the Examiner to establish lack of compliance with 35 USC §112, first paragraph, should the Examiner maintain these rejections clarification is respectfully requested.

Consequently the Appellants respectfully request withdrawal of the rejection of claims 44-47 under 35 USC §112, first paragraph.

Whether claims 44 and 45 are anticipated by McLaughlin et al.

Claims 44 and 45 depend upon independent claims 1 and 21, respectively. Therefore independent claims 1 and 21 are discussed here although they are not on appeal. Claims 46 and 47 are similar to claim 45 and depend from claims 42 and 43, respectively, which are similar to claim 21. Therefore claims 42, 43, 46 and 47 are also discussed here although claims 42 and 43 are not on appeal and no rejection of claims 46 and 47 under 35 USC §102 was made.

Although there may be some ambiguities in what McLaughlin et al. discloses regarding windows, "windows managers," "window decoders," and "special window information" that is "embedded" within a video signal, the burden of proof is upon the Examiner to establish a rejection under 35 USC §102 and to show that allegedly inherent features are truly inherent (see MPEP 2112 p.2100-40, left column, under the title "EXAMINER MUST PROVIDE RATIONALE OR EVIDENCE TENDING TO SHOW INHERENCY," which cites *In re Rijckaer*t, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) and *In re Oelric*h, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981)). Logically it follows that in general ambiguities in McLaughlin et al. should be resolved in favor of patentability.

Claims 1, 21, 42 and 43 have a video signal and a display control signal. It is not clear if both these signals are disclosed in McLaughlin et al.

> The Examiner stated (the first sentence of the paragraph bridging pages 4 and 5),
>
> McLaughlin teaches a window which can also be interpreted as the presence of a corresponding window manager in a video signal (fig. 1-2; col. 6, lines 47 -69).

Thus the Examiner implied that the window manager is *in* the video signal. The Appellants respectfully submit that contrary to the implications of the Examiner's assertions,

independent claim 1 recites "a window manager to embed special window information in a video signal." The "window manager" of independent claim 1 is not in the video signal as implied by the Examiner but rather the window manager embeds the window information in the video signal. The claimed "window manager" is not necessarily something that is placed in a signal. Thus, even were the Examiner's statement correct, McLaughlin et al.'s device would not constitute the claimed invention because the alleged "window manager" of McLaughlin et al. would not be disclosed as embedding special window information in the signal.

More importantly, the word "embed" or "embedding" of independent claims 1, 21, 42 and 43 like all words of a claim must be given weight. Embedding special window information in a video signal implies that the resultant signal has some structure. Specifically, it has at least two parts (1) a video signal without any special window information in it that would exist were the special window information not embedded and (2) the special window information that is embedded. A signal having such a structure is not disclosed in McLaughlin et al.

The Examiner stated regarding claim 21 (the last two sentences of the last full paragraph of page 5),

> McLaughlin teaches the presence of icons on the said window which can be interpreted as a method for extracting said special window information from said video signal using a window decoder (fig. 2). McLaughlin teaches generating display control signals in response to said window information to enable different processing of said special windows when said icons is [sic] interpreted as the said special windows in said display.

However, an icon is not a window, and even assuming *arguendo* that an icon is a window McLaughlin et al. do not disclose an icon manager, as would be necessary for a rejection

under 35 USC 102. Regarding 35 USC 103, even assuming that McLaughlin et al. has a window manager, icons are not analogous to windows since there is not any icon manager.

The Examiner also stated, (the first and second lines of the last full paragraph of page 5),

> McLaughlin teaches a window on a screen which can be interpreted as the embedding of special window information in a video signal (fig. 2).

However, it is not clear that "main window" (having control area 30 and area 32, column 6, lines 30-32) can be considered a special window, especially considering that it is the main window. Since there can only be one main window, if "special" is interpreted as main, McLaughlin et al. certainly does not disclose multiple "special windows in a display" (emphasis added) as recited in claims 1, 21, 42 and 43. McLaughlin et al. has a "main window 30," which essentially is the entire picture displayed. However, the independent claims 1, 21, 42 and 43 require more than one "*special* window" within the display. The claimed invention is "an apparatus for handling special windows in a display" (line 1 of independent claims 1, 21, and 42 and line 2 of independent claim 43). In contrast, McLaughlin et al.'s device is for color control, for calibrating the color and for print proofing. The use of the phrase "real time" (within column 10, lines 58-67), and the statement (column 11, lines 61-65)

> To display the current picture dimensions (e.g., the values...)...as well as to control display 16 to display images with such dimensions

and similar statements in other places in McLaughlin et al.'s patent (such as column 12, lines 32-40 and 52-56 and column 13, lines 36-40) imply that the entire display changes in response to the user's input and not just some special window. Consequently, the color control system does not constitute a plurality of windows that are special in the sense that

they are processed differently from the rest of the display. Although the Appellants' Specification mentions that video signals require special processing and therefore use special windows, and although McLaughlin et al. mentions a "Digital video" (column 6, line 20), there is no clear indication that McLaughlin et al. disclose multiple windows containing digital video images that are processed in a manner different from the rest of the display or are special in any other sense. Thus it is not clear where McLaughlin et al. disclose more than one window that is in some way "special."

Even if McLaughlin et al. has special windows, possibly line 16E has multiple communication channels so that there is no need to embed the special window information in the video signal. The two lines, one connecting control circuit 16D to screen 16A and the other connecting processor 16C to screen 16A, for example, may constitute separate communication channels that are used instead of embedding the alleged special window information signal in the video signal. Thus it is additionally unclear where McLaughlin et al. discloses that information related to these alleged special windows is "embedded" in a video signal, as claimed.

The Examiner stated (the second sentence of the paragraph bridging pages 4 and 5),

> McLaughlin teaches use of buttons for activating window driven functions (fig. 1-2; col. 6, lines 47-69); the use of such buttons translates into a type of window manager for running programs.

However, the signals generated by the mouse or keyboard by the virtual manipulation of the buttons referred to by the Examiner are so that the "user can enter a command for display control or calibration" (column 6, lines 46 and 47), which affects the entire picture displayed and not just a special window. In contrast, the claims require the special window information to be "embedded" in the video signal. Even if *arguendo* the image on the screen of the

control buttons were a "window manager" changes made in column 6, lines 46-67 referred to by the Examiner, using this "window manager" affect the entire picture displayed and not just special windows. Consequently there is no need to "embed" this information in another signal. The information that would be sent in the normal video signal could be modified without embedding anything new in it. For example, the part of the signal that normally controls the brightness for the entire display picture could be changed to that of a different brightness. Although column 6, lines 47-67, cited above, discuss using a mouse to select icons, they do not discuss how the signal from the mouse is processed. It is not clear that the signal from the mouse is embedded in the video signal. Possibly, the signal from the mouse is never embedded in anything. Possibly, the signal from the mouse travels by itself, unembedded to RAM or processor 11 and is sent along separate channels within bidirectional line 16E. Thus, McLaughlin et al. does not necessarily "embed" anything. Further, regarding independent claim 1, even if the signal from the mouse were embedded in a video signal, the mouse is not a window manager.

Although the Examiner cited FIGs. 1 and 2, processor 11, display 16, and communication link 16E, (the top of page 5) there is nothing in the discussion of FIGs. 1 and 2, processor 11, display 16, and communication link 16E that discusses "special window information," multiple "special windows," embedding one signal in a second signal, or extracting part of a signal, as in claims 1, 21, 42 and 43. Regarding claim 1, there is no explicit discussion of a "window manager" and there is no discussion of a "window decoder" in connection with elements 16, 16E and 11.

The Examiner stated (page 13, the bottom of the second full paragraph),

> the input/output system which uses windows based display taught by McLaughlin allows for the use of a window system for managing the use of software applications

> stored in a computer system. The Examiner submits that any window driven system translates into a window manager.

Regarding the first two of the above lines, McLaughlin et al. state (column 3, lines 16-28),

> The invention is a method and system for controlling and optionally also calibrating a display device (typically, a color display device). The system includes a processor programmed to control (and optionally also calibrate) a display in response to user selection of displayed virtual controls. In preferred embodiments, the system includes circuitry within the display device (e.g., electron gun controlling circuitry and electron beam aiming electromagnets) which operates under control of the inventive software in response to user-entered commands for adjustment of parameters (including geometric and color parameters) of the display device.

In other words, McLaughlin et al.'s invention is a program "for controlling and optionally calibrating a display" and not for managing programs. Similarly, the "user-entered commands [(e.g. via the GUI of FIG. 2 and a mouse, referred to by the Examiner) are] for adjustment of parameters (including geometric and color parameters) of the display device" and not for managing software. In the last three of the above lines the Examiner implied that "a window system for managing use of software applications" is "a window manager." However, the claimed "window manager" is a program or device for managing windows and not a window that manages programs, as will be elaborated upon below. Regarding the last two of the above quoted lines, the Appellants respectfully submit that the argument that "any window driven system translates into a window manager" overlooks the Appellants' contention that pictures on a display screen do not manage anything even if they are part of a windows based system. The Appellants respectfully disagree with the Examiner's assertion that the buttons displayed on the screen are a "window manager," because they are only a display, which manages nothing, and certainly do not *embed* information into the video signal, as claimed. Windows are also just pictures on screens and cannot manage anything. Thus the Examiner's interpretation of a "window manager" as "a window system for

managing," or a window that manages, would also be an oxymoron because pictures, even if they are windows, cannot manage.

Returning to the Examiner's allegation that a window that manages is a "window manager," the Appellants respectfully submit that such an interpretation of the phrase "window manager" is contrary to the norms for interpreting English and therefore contrary to the Examiner's obligation to interpret claims according to their plain meaning as explained in MPEP 2111.01. Interpretations that distort the English language are not within the breadth of the claim language. In English the modifier comes before the noun. Thus, in the phrase "window manager" the rules of English grammar require the noun to be the word "manager" and the modifier to be "window," meaning that a "window manager" is a type of manager (i.e. one that manages windows) not a type of window as suggested by the Examiner. For example, a "brick layer" is someone who lays bricks not a brick that performs layering, a "cookie cutter" is a cutter for cutting cookies not a cookie that cuts, and a soup bowl is a bowl for soup not a soup specially prepared for the bowl. Likewise a "window manager" is a manager for windows, not a window that manages.

Regarding independent claim 1, the Examiner stated (after the semicolon in the sentence bridging pages 4 and 5),

> any type of circuitry which translates input entered into computer readable signals then back to human readable output is considered a window decoder.

However, the Appellants respectfully submit that a "window decoder" must "decode" something related to "windows" and not just display input in human readable output, in contrast to the implications of the above statement. The Appellants respectfully submit that computers displayed information in human readable output long before the invention of

windows. Consequently, the Appellants respectfully submit that human readable output does not imply anything about windows or window decoders.

The window decoder of independent claim 1 "extracts" the special window information while independent claims 21, 42 and 43 include a step of or means for "extracting" special window information (e.g. the logical 1s and 0s hidden in bars 514 and 516) for further processing. Similar to the word "embed," the word "extract" also implies that the video signal thus must have at least two parts: a first part, which is the part extracted, and a second part from which the first part was extracted. In McLaughlin et al. the processor processes the entire signal. Extraction of a part of a signal is not inherent and not disclosed.

Regarding claims 44 and 45 the Examiner wrote (the second and third full paragraphs of page 6),

> McLaughlin discloses special window information that is embedded in the video signal so as to be visually indistinctive to a viewer (fig. 2).

The Appellants respectfully submit that the Examiner's statement is nothing more than an unsupported assertion parroting the claim language and then asserting that it is shown in FIG. 2. There are not any camouflaged or hidden objects in FIG. 2. Every object shown on McLaughlin et al.'s display is intended to be visually distinct. The point of claims 44 and 45 is that even if *arguendo* the buttons and controls shown on the display screen of McLaughlin et al. were somehow a "window manager" and even if *arguendo* the associated calibration information could be called "special window information" which is embedded in a video signal, in McLaughlin et al. all window information is intended to be distinctively seen and understood by the viewer, in contrast to claims 44 and 45. For example, the setting on the brightness control informs the viewer how bright the display is set and numbers depicting the width and height settings of the main window are clearly displayed for the viewer's interest.

In contrast, the 1s and 0s of the key signals or bars 514 and 516 of the Appellants' invention cannot be read by the viewer. No matter the pattern of 1s and 0s embedded in bars 514 and 516 the viewer just sees gray bars, which themselves cannot be easily distinguished from the rest of the gray window frame in which they are located. The Appellants respectfully submit that this concept, as expressed not only in claims 44 and 45 but also in claims 46 and 47, is not even remotely suggested or taught by any of the references relied upon by the Examiner.

Whether claims 5-10, 12, 25-30, 32 41, 46 and 47 are obvious over McLaughlin et al. in view of Shafer.

The Examiner rejected claims 5-10, 12, 25-30, 32 and 41-43 under 35 USC §103 over McLaughlin et al. as applied to claim 4 further in view of Shafer.

The purpose of McLaughlin et al. is to provide a color control system and calibration system (column 3, lines 16-18) that can be used for print preproofing (column 3, line 65 through column 4, line 5) that has a locking mechanism for locking (column 3, lines 41 and 42) the display settings and uses easy to understand mnemonic symbols for the virtual controls (column 4, lines 6-10). The display is typically a CRT. In contrast, Shafer et al. is a timer that shuts off a TV while the viewer falls asleep in which not only does the sound fade out as the viewer falls asleep but the image also fades out, so as not to wake the viewer (see column 2, lines 3-13, for example). Although the image fades out the perceived brightness of the onscreen timer does not fade out (see column 2, lines 14-25, for example). These two devices are sufficiently different as to raise the question as to whether or not they are in the same art area. The classifications and fields of searches of the two devices do not have any overlap, and

> Patent Office classification of references and the cross-references in the official search notes are some evidence of 'nonanalogy' or 'analogy'(MPEP 2141.01(a) the top of the second paragraph of the left column of p. 2100-92, which cites *In re Ellis*, 476 F.2d 1370, 1372, 177 USPQ 526, 527 (CCPA 1973))

McLaughlin et al. is classified and has its field of search in classes 364 and 340 while Shafer et al. is classified in class 348 and has its field of search in classes 348 and 358.

Calibrating, controlling color, color preproofing before printing and using a computer as in the device of McLaughlin et al. are relatively active endeavors. In contrast, watching TV while falling asleep as with Shafer et al.'s device is a relatively passive endeavor. Differences in function, especially antithetical or mutually exclusive modes of operation or functioning, have been found to be indicative of different fields of endeavor or nonanalogous art similar to compact and modular versus varying size memories in *Wang Laboratories Inc v. Toshiba Corporation* 993 F.2d 858, 26 USPQ2d 1767 (Fed. Cir. 1993), cited in MPEP 2141.01(a), p. 2100-93, the paragraph bridging columns 1 and 2, and similar to extraction versus storage as emphasized by MPEP 2141.01(a) (at the bottom of the left column of p. 2100-92 citing *In re Clay*, 966 F.2d 656, 23 USPQ2d 1058(Fed. Cir. 1992)).

There is no teaching or suggestion in the prior art to use the time display of Shafer et al. simultaneously with the calibration features of McLaughlin et al., and according to MPEP 2143.01, p. 2100-98, left column,

> Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The calibration, color control and print proofing features would only be used on occasion, such as when first setting up the CRT or when first printing a certain type of print on a

specific printer, because, once set, the calibration and color control should hold for a while and be reusable for many images and prints. Regarding the calibration features of McLaughlin et al., the "colorimeter is placed against screen 16A," thereby obstructing the view. It would be annoying to watch TV with the calorimeter in the middle of the screen as shown in FIG. 10 of McLaughlin et al., for example. Similarly, proofing a print is an active process that preferably makes use of a "light box," (column 5, lines 9-11) and controlling the color using controls of FIGs. 2-9 is also a relatively active process, which is at least somewhat inconsistent with watching TV while dosing off. Specifically, the prior art time display of Shafer et al. is for alerting someone that the TV is about to shut off without waking them if they are falling asleep. This would typically occur towards the end of watching TV. The Examiner has not shown a motivation that would suggest a person calibrating, adjusting the color or proofing a print, associated with their TV or CRT either while asleep or while worried about resetting the timer before the TV or CRT shuts off because they are not yet as sleepy as they had hoped to be and still want to watch TV, for example (cf. MPEP 2145 p. 2100-123 under the heading "REFERENCES CANNOT BE COMBINED WHERE REFERENCE TEACHES AWAY FROM THEIR COMBINATION," which cites *In re Grasselli*, 713 F.2d 731, 743, 218 USPQ 769, 779 (Fed. Cir. 1983); MPEP 2143.01 p. 2100-99, left column, under the heading, "THE PROPOSED MODIFICATION CANNOT RENDER THE PRIOR ART UNSATISFACTORY FOR ITS INTENDED PURPOSE," which cites *In re Gordon*, 733 F.2d 900, 221 USPQ 1125 (Fed. Cir. 1984); and MPEP 2143.01 p. 2100-99, right column, under the heading "THE PROPOSED MODIFICATION CANNOT CHANGE THE PRINCIPLE OF OPERATION OF A REFERENCE," which cites *In re Ratti*, 270 F.2d 810, 123 USPQ 349 (CCPA 1959)).

In addition, the claimed color video signal is not used as a sleep timer for shutting something off as in Shafer but as a "video clock signal for said window information" (i.e. the window information of the special windows) which is a video clock signal used for the timing of the special window information, which is a very different concept.

Further, even if *arguendo* the combination of McLaughlin et al. and Shafer et al. suggested placing a first color signal to serve as a clock in the same display that has the special window information produced by a window manager, there is no suggestion to use the two together, as required in the claims, which recites that the second color signal contains the special window information and that the first color signal serves as a video clock for the special window information. Thus, the claims in question require cooperation between the "special window information," which the Examiner alleged was taught by the color control panels of McLaughlin et al. and the "video clock signal," which the Examiner alleged was taught by the sleep timer of Shafer et al. Specifically, these claims recite, "a first color signal serving as a video clock signal for special window information." It is difficult to see how this sort of cooperation could be suggested between two unrelated elements that appear in two different unrelated references. Therefore, it is difficult to see how the combination of these two references teaches "a first color signal serving as a video clock signal for special window information."

The Appellants respectfully submit that the above argument as to why the proposed combination of McLaughlin et al. in view of Shafer is flawed was stated in the response filed June 12, 2000 (the paragraph bridging pages 11 and 12). However, although the Examiner made a broad statement that the he did not understand the Appellants' arguments, he never

discussed the substance of the Appellants' arguments, which the Appellants respectfully submit is tantamount to not responding to the Appellants' arguments.

Regarding claims 5 and 25, the Examiner apparently relied on the bar graph of column 1, lines 45-60 of Shafer et al.'s admitted prior art. Shafer et al. however teach away from using this bar graph and instead prefer to dim the picture as in FIG. 2 or else have a growing region 70 in which the image is essentially blacked out, further suggesting that the Examiner's proposed modification would have been unobvious. The blacked out part of the picture does not constitute a color signal but the lack of a color signal because on a CRT TV the black pixels are not excited or lit.

Regarding claims 6 and 26, the Appellants respectfully submit the Examiner never explained which part of McLaughlin et al. or Shafer et al. teaches that the "key signals include ... information to encode a target area position" as claimed. Although the Examiner stated (page 8, the middle sentence of the first full paragraph),

> McLaughlin teaches the use of a window which can be understood as the presence of a software program for interpreting as information for encoding a target area position (fig. 2).

The Appellants respectfully submit that the Examiner has not shown any of McLaughlin et al.'s signals to be "key" signals. Further, the implication of the Examiner's statement is that every window on a screen implies the presence of a program to generate it and that this program is a window manager and window decoder. Following the Examiner's logic every icon displayed implies the presence of another program to generate it and this program would have an icon manager and icon decoder. However the Appellants respectfully submit that the Examiner's logic is incorrect because there is no need for a different manager and decoder where each one is specialized for each type of object displayed on a screen (e.g., a special

bicycle manager and decoder for displaying bicycles and a special football manager and decoder for displaying footballs are unnecessary). Similarly, the Appellants respectfully submit that a special window and separate treatment of the special window via a window decoder to display a window on a screen, as claimed, are unnecessary and therefore not inherent, contrary to the implications of the Examiner's statements, as explained above.

Regarding claims 7 and 27, the Appellants respectfully submit that, contrary to the Examiner's assertions, Shafer et al. do not disclose "pixel pairs." Shafer et al. refer to "kinescope (not shown)" (column 6, lines 66 and 67), suggesting that the details of the pixels on that kinescope are not discussed. Although Shafer uses the notation "R-Y, G-Y, and B-Y" in the parentheses of column 6, line 52, the Y refers to the brightness or "luminance component (Y)" (column 6, line 51) of the R, G and B signals, which is presumably controlled by the gain amplifier 106. The Appellants respectfully submit that column 6, lines 46-67, cited by the Examiner in Shafer does not explicitly mention "pixels" in connection with color but instead refers to "color signals" (column 6, line 56) in FIG. 4, and therefore cannot disclose the claimed "pixel pairs," contrary to the Examiner's assertions. The only places that Shafer et al. explicitly mention pixels are column 7, line 37 and 9, line 13, which do not discuss "pixel pairs" and do not explicitly discuss color.

Regarding claims 8, 28, and 41 the Examiner refers to the OK button 62 of FIG. 6 as a "start sequence." However a single button does not constitute a "sequence," and therefore is not a "start sequence." Further, one presses the OK button when all the settings are OK, which typically ends the calibration or preproofing session. Thus McLaughlin et al.'s OK button may be a finish icon, but is not a "start sequence." The Appellants respectfully submit that FIGs. 6 and 7 do not show any code sequence, contrary to the Examiner's assertions.

Consequently, McLaughlin et al. certainly never discuss code sequences for distinguishing key signals having the special window information and the rest of the data sent to the screen, as claimed. McLaughlin et al. never teach separating the window information from the rest of the data, and even if they did, there would be no necessity to use "code sequences" for distinguishing key signals from the rest of the video signal.

The Appellants note that the "data" of claims 8, 28, and 41 refers to the data sent to the screen in claim 4, which includes the special window information separated out from it in claim 8. Thus in claim 8 the step of including the "code sequence" to distinguish between the special window information and the rest of the data is placed in the data sent to the screen so that it can be read from the signal sent to the screen. In other words, claim 8 has a more distinct requirement that a portion of the very same signal sent to the screen thereby creating the picture is also being sent to the window decoder (as specified in claim 1) to give it the special window information for creating the special windows and includes a code sequence to distinguish the special window information from the rest of the data, which is not taught or suggested by the references relied upon by the Examiner.

The Appellants respectfully submit that contrary to the Examiner's assertions, McLaughlin et al. does not disclose the details of how they create their window or the details of the coding of their "window information" and therefore cannot disclose a horizontal and vertical offset sequence, a stop sequence or a CRC check sum. None of the words "CRC," "check" or "sum" appear in McLaughlin et al. and a CRC check sum is not inherent in creating an image or a window on a screen.

Regarding claims 9 and 29, McLaughlin et al. never even discuss the claimed "differential" and "nondifferential" signals. There is nothing in icons 61 and 62 that would force them to use differential or nondifferential signals, let alone both, as claimed.

Regarding claims 10 and 30, although FIGs. 3-6 of McLaughlin et al. show numbers in boxes, they are each individual numbers not number sequences. These numbers indicate other things, such as how much blue, red and green are in the image; they do not "indicate a number of special windows," as claimed.

Regarding claims 12 and 32, the Appellants respectfully submit that the Examiner is ignoring the word "sequence" in the phrase "selection sequence." The Appellants respectfully submit that FIG. 6 of McLaughlin et al. does not show a selection sequence of any kind, contrary to the implications of the Examiner's statements.

Regarding claim 25 the Examiner stated (the last full paragraph of page 9),

> McLaughlin teaches ... transmitting a first color signal serving as a video clock signal for the special window information, ...(col. 2, lines 13-60)

The Appellants respectfully disagree. Although column 2, lines 13-60, cited by the Examiner, mentions the gamma and the white point, it never even explicitly discusses color signals *per se*. Further, using one of the color signals as the clock signal is not taught or suggested by any of the references relied upon, and is a highly innovative step.

Regarding claim 26, in addition to the comments made with regard claim 6, the Appellants respectfully submit that contrary to the implications of the Examiner's assertions images can be formed on screens from purely analog signals without any "bits" of data.

Regarding claim 27, in addition to the comments made in reference to claim 7, the Appellants respectfully submit that contrary to the Examiner's assertions although column 2, lines 13-60 mention pairs of icons and discuss the gamma and white point, they never discuss

"pixel pairs." Column 2 never even explicitly discusses "pixels." Usually pixels on a CRT such as McLaughlin et al.'s are grouped into groupings of three pixels (e.g. red, blue and green) or four pixels (e.g. red, blue, green, and white, where the white pixel helps control the brightness). The claimed usage of "pixel pairs" is highly innovative and is not taught, disclosed, or suggested by the references of relied upon by the Examiner.

Regarding claims 42 and 43, see the explanation above made in reference to claim 21 in the discussion of the 35 USC §102 rejection.

The Appellants respectfully submit that similar to claims 44 and 45 the concept of displaying information on the display that is supposed to be indiscernible to the viewer in claims 46 and 47 is not even remotely suggested or taught by any of the references relied upon by the Examiner.

Whether claims 11 and 31 are obvious over McLaughlin et al. in view of Shafer further in view of Priem.

Claims 11 and 31 were rejected under 35 USC §103 over McLaughlin et al. as applied to claim 4, in view of Shafer et al. and further in view of Priem.

Priem's device is a display that has a special Z-buffer that facilitates three-dimensional displays, where the Z-buffer represents the Z-axis, which in turn represents the depth into the screen.

Although window E of Priem is illustrated as an oval, the motivation for the proposed reference combination given by the Examiner is (the last two lines of the last full paragraph of page 11)

> because doing so allows the programmer to provide windows and other icons having various shapes.

Similarly, the Appellants' specification explains (page 4, lines 9-12)

> Software developers preferably trigger special window creation by calling a window manager, which includes operating system functions specifically designed to simplify special window use.

Common to both statements is the concept of ease of programming, which suggests that the Examiner's statement is essentially the Appellants' above cited teaching except modified to serve as a motivation the proposed reference combination. As secondary proof that the Examiner has based his rationale on concepts gleaned from the Appellants' disclosure, see page 7, lines 3-6 of the Final Rejection which are just the Examiner's restatement of page 4, lines 9-12 of the Specification, cited above, except applied to claim 2, not on appeal. Although the Examiner gives the above-cited reason for including a non-rectangular window within McLaughlin et al.'s display, this reason of the Examiner is not found in any of the references cited, indicating that that the Examiner's proposed reference combination is not obvious (*In re Fine* and *In re Jones*). Additionally, the lack of a basis for the Examiner's statement within the prior art relied upon and the similarity of the Examiner's reason to a concept taught by the Appellants' specification indicate that at least part of the Examiner's above cited statement comes only from the Appellants' specification. However, MPEP 2145 (X) A, p. 2100-122, states

> obviousness is in a sense necessarily a reconstruction based on hindsight reasoning, but so long as it takes into account only knowledge which was within the level of ordinary skill in the art at the time the claimed invention was made and does not include knowledge gleaned only from applicant's disclosure, such a reconstruction is proper." In re McLaughlin 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971).

This can also be restated as

> The tendency to resort to "hindsight" *based upon applicant's disclosure* is often difficult to avoid due to the very nature of the examination process. However, impermissible hindsight must be avoided and the legal conclusion must be reached on

> the basis of the facts gleaned from the prior art (emphasis added, MPEP 2143, p. 2100-97, the first paragraph in the left column).

In other words if the only source of a concept (e.g. ease to program) is the Appellants' disclosure (e.g. page 4, lines 9-12), then the Examiner's reliance on that concept in a rejection is hindsight and impermissible in a rejection based upon 35 USC §103, suggesting that Examiner's proposed reference combination was not obvious.

> Priem states (column 3, lines 44-49),
>
> The present invention further discloses an efficient system for keeping track of a plurality of windows displayed on CRT 12, without the necessity of providing separate window identification memory planes and *identification numbers* for each window, as required by other systems (emphasis added).

Thus Priem prefers not to use and therefore teaches away from using identifiers such as "identification numbers" identifying windows such as those covered by claims 8 and 28 from which claims 11 and 31 depend or the shape sequence of claims 11 and 31.

Priem uses the Z-buffer to keep track of the windows, in contrast to the present invention that uses code sequences within key signals embedded in the video signal. Priem does not discuss how the shape of window E is chosen and therefore cannot disclose a shape sequence indicating which shape to choose. Although Priem mentions "Objects 110, 105, 100 and 110 [sic] are to be drawn into a frame buffer" (column 3, lines 58 and 59) within the passages cited by the Examiner, objects that are being displayed within a window are not the shapes of the window and therefore also are not a "selection sequence *indicating* a selection from among a plurality of special processes" (emphasis added), as claimed. The sequence of objects of Priem is not something that "indicates" which item to display but are the items displayed. Consequently, Priem does not teach the use of a "shape sequence" which is used to indicate the shape *only if* the shape is not rectangular, as required by claims 11 and 31.

Thus, the Examiner's proposed combination, even were it obvious, would not result in the claimed invention, including all of the limitations of dependent claims 11 and 31, because the "shape sequence" and the use of it only if not rectangular are not taught by any of the references.

Summary and Conclusions

The description of how the key signals are located and color coded to give an achromatic gray so as to be indistinctive and so as not to be a distraction on page 4, line 13 through page 5, line 22 and page 16, line 13 through page 19 line 4 are

(1) sufficient to have enabled one of ordinary skill in the art to make and use an apparatus or method in which "special window information is embedded in the video signal so as to be visually indistinctive" without undue experimentation as in claims 44-47; and

(2) a sufficient written description to expressly or inherently disclose an apparatus or method in which "special window information is embedded in the video signal so as to be visually indistinctive" as in claims 44-47.

The phrase "the special window information is embedded in the video signal so as to be visually indistinctive" is clear when read in light of the specification.

The clarity of claim language is not an issue under 35 USC §112, first paragraph.

McLaughlin et al.'s print preproofing system, color control system and calibration system are not a system for processing multiple special windows and does not have multiple "special windows."

The rules of English require that the claimed "window manager" be a manager that manages windows and not a window that manages applications just like a bicycle rack is a rack for bicycles and not a bicycle that is for a rack.

There is nothing in McLaughlin et al. that inherently includes a "window decoder."

There is nothing in McLaughlin et al. that requires the video signal to have information about special windows or "special window information" to be "embedded" and later "extracted." For example, bidirectional line 16E could carry a separate communication channel for window information.

All information displayed by McLaughlin et al. are intended to be visually distinct and therefore are not "visually indistinct."

The active nature of controlling color, print proofing, and calibration in McLaughlin et al. teach away from using Shafer's sleep timer or the bar graph of Shafer's prior art section for watching TV while falling asleep as a clock signal for special window information.

The bar graph or sleep timer of Shafer do not constitute a clock for special window information even if they do constitute a clock signal.

Shafer teaches away from using the bar graph referred to by the Examiner by placing it in his prior art section.

The Examiner has not provided a motivation for combining Shafer and McLaughlin et al. that is recognized in the prior art.

The active nature of use of the device of McLaughlin et al. and the passive nature of use of the device of Shafer mitigate towards a conclusion that Shafer is non-analogous art for the purposes the Examiner would like to use them in his proposed combination of references.

The clock signal of Shafer is not for clocking the special window information using a first color where the special window information is represented by another color.

Regarding claims 6 and 26, neither McLaughlin et al. nor Shafer et al. teach that the "key signals include ... information to encode a target area position" as claimed.

Regarding claims 7 and 27, Shafer does not in anyway disclose the claimed "pixel pairs."

Regarding claims 8, 28 and 41, neither Shafer nor McLaughlin et al. disclose a start sequence, a horizontal offset sequence, a vertical offset sequence, or a stop sequence defining the location of the key signal, or a CRC check sum or a code sequence ensuring that the key signal is valid and does not get mixed up with the rest of the display data.

Regarding claims 9 and 29, neither Shafer nor McLaughlin et al. discuss whether their signals are differential or nondifferential and consequently do not disclose both nondifferential and differential signals.

Regarding claims 10 and 30, the numbers in boxes of FIGs. 3-6 of McLaughlin et al. do not constitute the claimed number sequences indicating the number of special windows.

Regarding claims 12 and 32, FIG. 6 of McLaughlin et al. do not show the claimed selection sequence indicating the type of special processing selected.

The Appellants respectfully submit that the Examiner used hindsight when he introduced the concept of ease of programming because the only suggestion of to ease of programming in the references relied upon comes from their Specification (page 4, lines 9-12).

Priem (column 3, lines 44-49) and his use of the Z-buffer for keeping track of windows teaches away from using a shape sequence for identifying a window and therefore also for identifying the shape of a window.

The sequence of *objects* within a window of column 3 or any other part of Priem do not teach the use of a "shape sequence" which is used to indicate a *window* shape *only if* the shape is not rectangular, as required by claims 11 and 31.

Therefore the claims on appeal are allowable and the Appellants request that the rejection of claims 5-12, 25-32 and 44-47 be reversed, so that this case can be allowed and passed to issue.

Respectfully Submitted,

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Appendix

The claims on appeal and the claims from which they depend are:

1. An apparatus for handling special windows in a display, comprising:

a window manager to embed special window information in a video signal; and

a window decoder to extract said special window information from said video signal and responsively generate a display control signal.

4. The apparatus of claim 1, further comprising:

a target area in said special windows to be specially processed in response to said display control signal; and

a video interface to transmit data including said special window information to said display.

5. The apparatus of claim 4, further comprising:

pixels contained in said display;

a first color signal serving as a video clock signal for said special window information;

a second color signal including said special window information; and

a third color signal.

6. The apparatus of claim 5, further comprising:

key signals including a pattern of bits of said special window information to encode a target area position, and corresponding to a pattern of said pixels depicted in said display.

7. The apparatus of claim 5, further comprising:

pixel pairs in said display, each member pixel of said pixel pairs being proximately located, said pixel pairs being colored according to said first color signal, said second color signal, and said third color signal in an additively complementary manner to visually approximate a single pixel of a mixed color.

8. The apparatus of claim 6, wherein components of said key signals include:

a start sequence indicating a beginning of said key signals;

a code sequence distinguishing said key signals from said data;

a horizontal offset sequence indicating a boundary of said target area relative to a horizontal position of said key signals;

a vertical offset sequence indicating a second boundary of said target area relative to a vertical position of said key signals;

a CRC checksum verifying said horizontal offset sequence and said vertical offset sequence; and

a stop sequence indicating an end of said key signals.

9. The apparatus of claim 8, further comprising:

nondifferential key signal data indicating said start sequence and said stop sequence; and

differential key signal data indicating remaining components of said key signals.

10. The apparatus of claim 8, further comprising:

a number sequence indicating a number of special windows.

11. The apparatus of claim 8, further comprising:

a shape sequence indicating a shape of said target area when said target area is not rectangular.

12. The apparatus of claim 8, further comprising:

a selection sequence indicating a selection from among a plurality of available special processes.

21. A method for handling special windows in a display, comprising the steps of:

embedding special window information in a video signal;

extracting said special window information from said video signal using a window decoder; and

generating a display control signal in response to said window information to enable different processing of said special windows in said display.

24. The method of claim 21, further comprising the steps of:

specially processing a target area in said special windows in response to said display control signal; and

transmitting data including said special window information to said display using a video interface.

25. The method of claim 24, further comprising the steps of:

depicting pixels in said display;

transmitting a first color signal serving as a video clock signal for said special window information;

transmitting a second color signal including said special window information; and

transmitting a third color signal.

26. The method of claim 25, further comprising the step of:

transmitting key signals including a pattern of bits of said special window information to encode a target area position, and corresponding to a pattern of said pixels depicted in said display.

27. The method of claim 25, further comprising the step of:

depicting pixel pairs in said display, each member pixel of said pixel pairs being proximately located, said pixel pairs being colored according to said first color signal, said second color signal, and said third color signal in an additively complementary manner to visually approximate a single pixel of a mixed color.

28. The method of claim 26, wherein said step of transmitting said key signals further comprises the step of concurrently transmitting within said key signals:

a start sequence indicating a beginning of said key signals;

a code sequence distinguishing said key signals from said data;

a horizontal offset sequence indicating a boundary of said target area relative to a horizontal position of said key signals;

a vertical offset sequence indicating a second boundary of said target area relative to a vertical position of said key signals;

a CRC checksum verifying said horizontal offset sequence and said vertical offset sequence; and

a stop sequence indicating an end of said key signals.

29. The method of claim 28, further comprising the steps of:

transmitting nondifferential key signal data indicating said start sequence and said stop sequence; and

transmitting differential key signal data indicating remaining components of said key signals.

30. The method of claim 28, further comprising the step of:

transmitting a number sequence indicating a number of special windows.

31. The method of claim 28, further comprising the step of:

transmitting a shape sequence indicating a shape of said target area when said target area is not rectangular.

32. The method of claim 28, further comprising the step of:

transmitting a selection sequence indicating a selection from among a plurality of available special processes.

41. The method of claim 26, wherein said step of transmitting said key signals further comprises the steps of:

transmitting a start sequence indicating a beginning of said key signals;

transmitting a code sequence distinguishing said key signals from said data;

transmitting a horizontal offset sequence indicating a boundary of said target area relative to a horizontal position of said key signals;

transmitting a vertical offset sequence indicating a second boundary of said target area relative to a vertical position of said key signals;

transmitting a CRC checksum verifying said horizontal offset sequence and said vertical offset sequence; and

transmitting a stop sequence indicating an end of said key signals.

42. A system for handling special windows in a display, comprising:

means for embedding special window information in a video signal;

means for extracting said special window information from said video signal; and

means for responsively generating a display control signal.

43. A computer-readable medium comprising program instructions for handling special windows in a display by performing the steps of:

embedding special window information in a video signal using a window manager;

extracting said special window information from said video signal using a window decoder; and

responsively generating a display control signal.

44. The apparatus of claim 1, wherein the special window information is embedded in the video signal so as to be visually indistinctive to a viewer.

45. The method of claim 21, wherein the special window information is embedded in the video signal so as to be visually indistinctive to a viewer.

46. The system of claim 42, wherein the special widow information is embedded in the video signal so as to be visually indistinctive to a viewer.

47. The computer-readable medium of claim 43, wherein the special window information is embedded in the video signal so as to be visually indistinctive to a viewer.